THE MAC Flyer

March 1986

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THE MAC Flyer

For Greater Safety in MAC Air Operations

March 1986 | MACRP 127-5 | VOL XXXIII NO. 3

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Dear Editors,

Dear Editors,

I graduated from a small, midwestern university (a long time ago) and I've read *The The MAC Flyer* years. I never thought I'd be writing to you; in fact, I never believed any of those contest stories. Like most people, I assumed they were fictional creations of your staff. But all that changed this last weekend, when I had an experience which may have permanently changed my life. I just had to write and share it with your readers.

Let me explain. I am male, about 6'1" and 187 pounds. I'm outdoors a lot, loading rocks, which accounts for my tan. I have a fairly lean physique and have been described as rugged and appealing by numerous female associates. I'm an avid aviator, own my own aircraft (a Cessna 172RG), and frequently fly down to my dad's cottage on Florida's Gulf Coast. So I wasn't too surprised when three co-eds I'd met at a college bash the week before approached me with a request to hitchhike to the sunshine state.

That Friday afternoon I elected to do everything the "right" way. I made sure I was well-rested (which proved *very* important later), thoroughly checked my machine, got a good weather briefing, and even filed a flight plan. I was all ready for the flight by the time the young ladies showed up. They were dressed casually, and I remember thinking how attractive they looked and feeling a bit depressed that I wasn't ten or so years younger. The girls seemed overly eager to get started and one even asked if we'd be flying five miles up. What a silly question, I thought.

Later, safely airborne and established in our climb to 11,500 feet, I thought I'd let Sheila, the redhead, have a shot at the controls. She was a little rough at first, but seemed to be getting the hang of not over-correcting, when all of a sudden the compasses started to spin wildly. I stretched across the cockpit trying to reach the adjustment knob but I just couldn't reach it. My face was smashed against . . .

(Editor's Note-- Unfortunately, the last part of this manuscript was lost, but because of the author's obvious intended safety message we included the partial manuscript as an example of the type of stories you might consider submitting to the 1986 MAC Flight Safety Writing Contest. Your entry can be a true story, like this one, or a completely fictional encounter. The only limitations are your creative streak and the necessary minor protective clauses listed below. Follow the guidelines and don't forget that all-important safety message. By the way, if the original author recognizes his work, the *TMF* staff is anxiously awaiting the answer to the obvious question: *Did both gyros fail simultaneously?*

THE RULES

The 1986 MAC Flight Safety Writing Contest is conducted according to MACR 900-3 and these rules. All entries must be original, unpublished and postmarked no later than 31 March 1986. Stories must be between 1,000 and 3,000 words long (about 6 to 14 double-spaced typed pages). Poetry should be about 75 to 100 lines. Entries must contain an *aviation safety/mishap prevention message.* Manuscripts must be double-spaced, typed and submitted in two copies. Identify entries by title only and attach a cover sheet showing the author's name, address, duty phone number and unit. The cover sheet must contain a brief autobiography.

The contest is open to anyone. Entries qualifying under the above rules earn their author a free one-year subscription to *The MAC Flyer.* However, contest prizes (desk sets and plaques) may only be awarded to military members and civilian employees of the Department of the Air Force or Air Reserve Forces. Other entrants may be selected for Honorable Mention in a special category. All winning stories will be published in *The MAC Flyer.* Entries should be addressed to:

Flight Safety Writing Contest
HQ MAC/IGFE
SCOTT AFB, IL 62225-5101

A CHUM of a Navigator

He learned his lesson.

Honorable Mention 1985 Flight Safety Writing Contest

by 1st Lt. Michael C. Traudt
50th TAS
Little Rock AFB, AR

It was a dark and stormy night, an instrument meteorological night. "A good night for SKE, eh Babs?" Bob "The Dream" Sheen asked his copilot Mark "Babs" Babsabo. As he programmed the next stage of his doppler computer, he grumbled again to Babs, "Tactical routes on nights like these are best flown at 7,000 feet." They both chuckled.

"No visual work tonight, eh Bob?" asked Babs.

"No way, Babsey, no way."

Although they had discussed some visual routes earlier in the formation briefing, it became obvious during engine run-up that the formation would use strictly station keeping equipment (SKE) procedures that night. The takeoff and SID all went as planned. During the route, the usual course and timing corrections worked well and placed the aircraft in a good upwind position at the IP. Bob relayed the proposed drift, ground speed, and altimeter setting to the formation early on the route to free himself for the transition to visual procedures for the drop. It was at slowdown that things seemed to run amuck.

Although the crew had been to this drop zone a month earlier, things didn't look the same. Update points selected during route study just weren't showing up. Bob located the familiar red blinking lights of the highest obstruction, but just past them were another set of lights, and these were white! He couldn't find them on his chart, and the dreaded sense of being lost started to cloud his thinking.

Instinctively, he acted on his last known position. "Pilot, nav. I think we need an echelon left turn now! Roll out on 220 degrees."

"Are you sure, nav?" said Maj. Funseeker nervously. "I think I've got the trailing edge lights breaking out now at 12:30."

With a sigh of relief, Bob quickly ran to the other window. "By golly you're right, pilot; nav has the DZ." Briefing the updated 5-second mark to his copilot, Bob rechecked the drift and timing. The drop went off successfully. The escape and recovery were uneventful.

After turning in his paperwork back at the squadron, Bob went back to the pilot's section. "Sorry about that run-in, Major. There must be a new set of towers out there that weren't on my chart."

"I know, Bob," said Major Funseeker. "I don't remember them being there either, but the doppler had us right on course, so I was flying on that information. By the way, you might leave publications a note about that—those towers obviously aren't in the CHUM, right?"

Not having checked it before the flight, Bob just grinned sheepishly. "Ah, no sir. I guess not."

"Well, good enough. We'll get that information disseminated in time for next week's run back out to Hotwater DZ. It's another night mission. Thanks, Bob. Good night," said the field-grader, grabbing his helmet bag and lumbering out into the dark, fine mist that was starting to fall outside.

Damn! thought Bob, I didn't check that CHUM, but then I never do for these locals. Usually the TPCs have all the towers and stuff, it's almost always a waste of time anyway. The new towers are never where you're going to fly and there's always a million of them listed that aren't a factor.

"Hey, Bob, you need a ride home or something?" asked Babs.

"No thanks. I need to use the computer to spin out some Computed Air Release Points (CARPs) for the JA/ATT I'm on this weekend. Thanks anyway."

"Okay then, see you in the funnies, eh?"

"Yeah, or on the SKE scope, Babs" said Bob jokingly as he turned down the hallway.

Slumping down in the chair and getting the computer on line, Bob popped open his can of soda and sighed. "Be nice to me, Zenith, I've had a hairy night at another console already."

Without command the Zenith answered back, "You did it to yourself, Bob."

"Whoa! What's going on here?" asked Bob, pressing keys for a clue to the spontaneous outburst.

The Zenith answered back on the pale green screen, "Nothing much, chump. Just here to help."

"Hey, wait. You mean you can *hear* me?" asked Bob incredulously. The Zenith typed back, "Of course I can hear you. Give me some credit, okay?"

"Well, okay you tubeless micro-wonder, but I *could* pull the plug on you, you know."

The screen flashed back, "I could pull some tricks on you too, flyboy. Just a quick word with my A-FORMS buddies and you could lose a couple months of flying time."

"Touche, my friend, touche. Okay, so do me a favor and spin me some CARPS on Beddown DZ. Personnel, 150 lbs, T-10s, 1,000 ft AGL, door exit with the standard winds and temps, please."

Within a minute the screen shot back the answers. Bob checked them briefly and ordered up hard copies from the printer.

"Letter perfect. Thanks a lot Zenith. I'll dust you off more often" said Bob reaching for the power switch.

Suddenly a bolt of static electricity struck his finger. The screen shot back, "Just a minute here, Bob. I'm not through with you yet."

"Okay, okay, but hurry up will you, I'm beat after that tac ride tonight."

The Zenith answered, "I know. You almost missed that DZ. Worse than that, you got disoriented."

"Yeah, I realize that" said Bob, "but only for a second, and since you know so much, you should understand why. That extra set of tower lights really threw me off. That could have happened to anyone."

The Zenith responded, "I know that Bob, but you're lead qualified now, no excuses for not having CHUMmed your chart. Hitting a tower can ruin your whole day—or night, for that matter."

"I know, I know," sighed Bob. "But we go there every month and I just didn't have the time to do all that junk tonight."

In bold letters the Zenith flashed back: **"LISTEN BOB, 10 MINUTES OF WORK IS A SMALL PRICE TO PAY TO INSURE YOUR OWN, YOUR CREW'S, AND YOUR FORMATION'S SAFETY. DIDN'T YOU HAVE ENOUGH TIME TO THROW DOWN THAT KILLER BURRITO AND CHILI AT BASE OPERATIONS?"**

"Okay, okay," moaned Bob. "But a guy has to eat, right?"

The screen printed back, "Eating is fine if you live to enjoy the next meal. Don't make yourself a permanent example to others; you're smarter than that."

"Well, thanks. Thanks for the vote of confidence, Zenith. I didn't realize you had it in you."

"Oh, I've got lots in me. I can even give you an example of what may happen if you don't CHUM your chart next time."

"Please spare me the gory details, my burrito's starting to come up already. You've made your point, okay?"

"I don't think you've gotten the message yet."

With those last printed words the screen went blank, the unit power system failed, and the printer unit went dead.

Bob sat stunned for a moment, then methodically tried to turn the Zenith back on. First he tried the return key, then the power switch, the circuit breakers, and finally, a new power box. Nothing would work. The Zenith was as dead as the proverbial doorknob.

"All right, all right," Bob screamed. "I promise to CHUM my charts. Now you get right back on line here and talk to me."

Still nothing. Bob, now scared and fuming mad, started pounding on the console's top. Still nothing. Feverishly, he tried banging on the sides of the unit until finally, the screen printed out a message: "Knowledge is power. Know those towers."

Bob sighed and collapsed in his chair. "I will, Zenith, I will. From now on I won't fly so much as a heavy weight assault trainer without checking that CHUM."

The Zenith typed out: "Good, I'd like to talk to you again Bob. You seem to be a sensible young navigator, just don't get too cocky or too lazy. Okay?"

"You got it buddy, that's a deal. From now on you can call me a Chum instead of a Chump."

Lieutenant Michael C. Traudt is a graduate of the University of Oregon and received his commission through Air Force OTS. He is presently assigned to the 7th Special Operations Squadron, Rhein-Main AB, Germany.

Flying-Hour Milestones

MSgt William L. Grunert, Jr., 729 MAS

Lt Col George J. Bourque, 337 TAS
Lt Col Ernest H. Jones, 30 MAS/CC
Lt Col Lauren R. Lengyel, Det 2, 1400 MAS
Lt Col Patrick J. Stajdel, 18 MAS
Maj Donald G. Buttron, 139 TAG
Maj Glen W. Chinn, 10 MAS
Maj Frank R. Harris, 1375 FTS
Maj Richard O. Manley, 10 MAS
Maj Gerald L. Mitchell, 1375 FTS
Maj Carl J. Rubner, 10 MAS
Maj William D. Wegenhoft, 6 MAS
SMSgt Robert L. Gunter, 71 ARRS
MSgt Preston E. Hannah, 18 MAS
MSgt Darryl F. Jones, 18 MAS
MSgt John F. Lozanski, 55 ARRS
MSgt Felice T. Taranto, 41 TAS
TSgt Kevin S. Davis, 18 MAS
TSgt Duane Edwards, 18 MAS
TSgt Michael R. Lavengood, 41 TAS
TSgt Randy G. Rudd, 10 MAS
TSgt Frank L. Venditti, 774 TAS
SSgt William G. Wright, 18 MAS

Capt Donald L. Dobias, 18 MAS
Capt Norman B. LeFevre, 10 MAS
MSgt Dale M. Ringler, 71 ARRS

Ranks and units are those at time of award. See MACR 900-3 for details on how to apply for your own milestone award.

Excellence in Airmanship

Left to right: Maj. Larry Brooks, SMSgt. Paul LeClair, Capt. John Schramm

Capt. John H. Schramm and crew, 403d Rescue, Weather, and Reconnaissance Wing, demonstrated exceptional skill and dedication in successfully landing an HH-3E after the number-one engine exploded.

During a local training mission, Captain Schramm was flying an ILS approach to Selfridge ANG base. All was normal as the aircraft passed the outer marker and began the descent. Suddenly a high frequency vibration shook the helicopter. Though flight examiner qualified, Maj. Larry Brooks was flying as the copilot and saw the number-one power turbine speed at zero and the rotor speed rapidly increase. Major Brooks immediately asked for the flight controls and Captain Schramm relinquished them to the more experienced pilot. Major Brooks brought the rotorspeed under control and headed for a clearing ahead and to the left of the densely populated area over which they were flying. The crew initiated the bold-face emergency procedures for an engine failure, but before they got to the second step, the number-one engine exploded, engulfing the forward cabin and cockpit in flames and thick smoke. Cockpit visibility vanished—the crew could no longer see outside the cockpit, the instruments inside the cockpit, or even each other! SMSgt. Paul LeClair, the flight engineer, had a sustained fireball burning at his back and was unable to go aft to open the crew door to eliminate the smoke. Despite severe burns over 40% of his body, Sergeant LeClair made a desperate attempt to get the pilot to open his window, then collapsed from smoke inhalation and his burns. Major Brooks made a slight turn to the left toward the now indiscernible clearing and began a descent. The pilots realized they would probably lose consciousness if they inhaled the acrid smoke, and took the only action available—they opened their cockpit windows. As soon as they did, the flames rushed into the cockpit and across their faces. Each pilot managed to take one more breath before they were burned, then closed their windows. This action created a small pocket of air at Major Brooks' feet and he began to catch glimpses of the ground through the chin bubble. Relying solely on instinct, Major Brooks continued the descent in the general direction of the clearing. Unknown to Major Brooks, Sergeant LeClair had collapsed over the pilot's collective stick, forcing it all the way down. Major Brooks, unable to see Sergeant LeClair, assumed this to be an auxiliary servo hardover and turned off the auxiliary hydraulics. At the same time, Captain Schramm sensed the sudden drop and instinctively reached to pull the collective up. Discovering Sergeant LeClair's body, Captain Schramm pushed him back up and off the collective, giving Major Brooks complete control again. Still catching glimpses of the ground through the chin bubble, Major Brooks skillfully completed the single-engine approach to a soft landing in what proved to be the only suitable site around. Captain Schramm egressed through his window, landing on his feet. He ran forward out of the smoke and regained his breath. Major Brooks dove out his window, breaking his left wrist and severely bruising his left hip. He also ran forward clear of the smoke. After a few seconds they spotted each other and realized Sergeant LeClair was still inside the helicopter. Ignoring their own injuries, they immediately went back to the crippled aircraft, risking further injury. Major Brooks opened the crew door and Captain Schramm pulled down the ladder. Major Brooks entered the smoke-filled cabin, but was unable to pull the disabled flight engineer clear of the cockpit. Captain Schramm then climbed the ladder, and together the two pilots pulled Sergeant LeClair to safety.

Their quick reactions and extraordinary crew discipline limited aircraft damage to that incurred by the explosion and fire, and minimized their own injuries. Property damage was negligible, and their skill and actions prevented civilian fatalities in the heavily populated area. Congratulations on a job very well done.

TMF Instrument Quiz

Alright, people. No more silly games. No more pesky copilots asking questions. This time it's just you and your own brain. No pictures, no diagrams. You're on your own. Only one hint—the answers can be found in Low Altitude US Instrument Approach Procedures (IAP) and FLIP General Planning (GP). One more point. Only a *wimp* would get the books out *before* answering the questions.

1. What does the abbreviation LDIN stand for?
   a. Long Distance Inertial Navigation.
   b. Low Density Internal Nausea.
   c. Lead-In Light System.
   d. Low-Level Drop in the Night.

2. What do these numbers and symbols (3.02°≻) mean?
   a. The magnetic heading to the snack bar from the end of the runway.
   b. Final Approach Angle for Vertical Path Computers (RNAV Descent).
   c. Final Approach Angle for a Cat III ILS approach.
   d. The number of degrees Fahrenheit the chili in the snack bar will raise your body temp.

3. The abbreviation RPI stands for?
   a. Runway Point of Intercept(ion).
   b. Runway Position Indicator.
   c. Rated Position Identifier.
   d. Reduced Power Indicator.

4. The Lead Radial (LR) depicted on an IAP will provide at least ___ NM (copter ___NM) of lead to assist in turning onto the intermediate/final course?
   a. 2 NM (½NM)
   b. 3 NM (1½NM)
   c. Who cares? I always overshoot anyway.
   d. 2 NM (1NM)

5-7. Match the Radio Control Airport Lightning System function with the number of times you must key the mike.

Key Mike
   a. 5 times within 5 seconds.
   b. 3 times within 5 seconds.
   c. 7 times within 5 seconds.
   d. 5 times within 3 seconds.

Function
5. ____ Highest Intensity Available.
6. ____ Medium or Lower Intensity (Lower REIL or REIL off).
7. ____ Lowest Intensity Available.

8. The outer marker (OM) transmits _____.
   a. continuous dashes
   b. continuous dots
   c. a series of three dashes and three dots
   d. alternate dots and dashes

9. The middle marker (MM) transmits _____.
   a. continuous dots
   b. series of three dots and three dashes
   c. have a nice day!
   d. alternate dots and dashes

10-22. You're at a field in Germany and you have to fly VFR to your next stop. Insert the required ICAO visibility and distance from cloud criteria in the appropriate spaces. Some of the choices may be used more than once. Be sure to check the footnotes (1)(2)(3). Choices for 10 through 22:

ANSWERS

1. c (IAP)
2. b (IAP)
3. a (IAP)
4. d (IAP)
5. c (IAP)
6. a (IAP)
7. b (IAP)
8. a (GP p. 2-27)
9. d (GP p. 2-23)
10. d (GP p. 6-4)
11. d
12. c
13. b
14. b
15. a
16. a

17. d
18. b
19. b
20. a
21. e
22. f
23. b (GP p. 2-23)
24. d
25. a
26. c
27. d (GP p. 5-16)

a. Clear of clouds and
b. 1.5 KM (1 mile)
c. 5 KM (3 miles)
d. 8 KM (5 miles)
e. 300 meters (1000 ft.)
f. In sight of the ground or water

	Above (1)	At or Below (1)
WITHIN CONTROLLED AIRSPACE		
Flight Visibility		10. _____
	11. _____	12. _____ (2)
Distance from cloud		
Horizontal	13. _____	14. _____
Vertical	15. _____	16. _____
OUTSIDE CONTROLLED AIRSPACE		
Flight Visibility	17. ____	18. _____ (3)
Distance from cloud		
Horizontal	19. _____	20. _____
Vertical	21. _____	22. _____

(1) 900 m (3000 ft) above mean sea level or 300 m (1000 ft) above terrain, whichever is higher, unless assigned higher by ATC.
(2) When so prescribed by ATC.
(3) Helicopters may be flown when the visibility is less than 1.5 KM (1NM) if operated at an airspeed that allows the pilot adequate opportunity to see any air traffic or other obstructions in time to avoid collision.

23-26. We all know there are some very nasty people out there trying to lure us off the straight and narrow (while airborne, that is). Match the term with the definition, then we'll all know how to report these things using the proper terms.

a. Interference.
b. Jamming.
c. Intrusion.
d. Meaconing.

23. ____ Radiation, re-radiation, or reflection of electromagnetic energy, with the objective of impairing the use of electronic devices, equipment, or systems.

24. _____ Transmitting actual or simulated radio navigation signals to confuse navigation.

25. _____ Radiation, emission, or indication of electromagnetic energy, with the objective of impairing the use of electronic devices, equipment, or systems.

26. _____ Insertion of electromagnetic energy into transmission paths, with the objective of deceiving operators or causing confusion.

27. And now a question on wingtip vortices, (you know, those little sideways "tornados") and how to avoid them before you land. Match the proper procedure with the situation.

a. Cross above the large aircraft's flight path.
b. Note large aircraft's rotation point—if past the intersection—continue the approach--land prior to the intersection.
c. Note large aircraft's rotation point—land well prior to rotation point.
d. Stay at or above large aircraft's final approach flight path—note touchdown point—land beyond it.
e. Consider possible drift to your runway. Stay at or above the large aircraft's final approach flight path—note touchdown point.

_____ Landing behind a large aircraft which just landed—same runway.

_____ Landing behind a large aircraft which just landed—when parallel runway is closer than 2,500 feet.

_____ Landing behind a large aircraft which just landed—crossing runway.

_____ Landing behind a departing large aircraft which just landed—same runway.

_____ Landing behind a departing large aircraft which just landed—crossing runway.

Picture This ...

by Maj. Edward H. Aufderheide
HQ MAC/DOT
Scott AFB, IL

The successful execution of a mission depends on the integration of a group of individuals into a team. Each member of the team is trained to accomplish specific tasks and to work with other crewmembers to cover all the variables during the execution of a mission .

Each crewmember is a data source, processor, and transmitter. The available data can be categorized as either mission-specific or generalized to basic operations. Additionally, some of the data can be known to all of the team members, or only one exclusively. The challenge for each crewmember is to identify which data is significant, and to whom it should be transmitted for processing.

Every mission can be reduced to a series of tasks and subtasks. Through repetition, these tasks and their sequences are internalized, forming habit patterns. These habit patterns serve as the foundation for ordering and cueing each task. Most mishap research identifies some break in established patterns which forces a crew to restructure task order and/or establish new references.

One of the goals of Cockpit Resource Management (CRM), Cockpit Leadership Training (CLT), and Mission Oriented Simulator Training (MOST), is to have crewmembers experience the information transfer process through role-playing exercises.

THE SETUP

One training method provides the crewmembers a scenario and then tasks them to act out the sequence. In this case we're going to capitalize on the infamous 20/20 hindsight we've all experienced. We're going to give you a situation from a pre-mishap experience, then relate what the crew did when their actions were pieced together after the mishap. Finally, we'll take a close look at what happened.

THE CREW DATA

It's been a long day but, thankfully, it'll soon be over. Your mission has been routine, but not without some glitches. During takeoff roll the "antiskid det out" light illuminated, meaning one of the eight main gear wheels of your C-141 was freewheeling (no brakes). Enroute, you had to maneuver to avoid weather, adding approximately 30 minutes to your flight. Before beginning the enroute descent, you called metro to check the weather only to find your destination obscured by fog, but above visibility-only landing minima. The ceiling has been fluctuating for the past hour and probably won't stabilize before the morning sun burns the fog off in another hour. Completing your destination scenario, the runway is wet. At the alternate, which is about an hour's flight away, the weather is marginal, just above required ceiling and visibility minimums. There are no other airfields in the area.

THE AIRCRAFT COMMANDER'S DATA

With 3,500 hours in the C-141, you are very experienced. The partial loss of antiskid was not a significant problem for you during the takeoff. After level-off you initiated troubleshooting which eliminated hydraulics as a cause, so you now assume the problem is electrical and beyond your crew's ability to repair in flight. Still, seven of the eight main gear brakes will function properly. Although the runway is wet, there are no crosswinds. Within the next few minutes, you must decide either to divert, delay until conditions change, or attempt an approach.

THE COPILOT'S INFORMATION

You've still got about ten minutes to finish your radio calls. Your job has been pretty easy so far. The AC is easygoing and confident, and his "rule of thumb" backup calculations for fuel planning were so close it seemed a waste of time to use the charts. If your estimates are right, however, about one-half of your planned fuel reserves were depleted enroute. You figure you can still hold for 1+30 though, so if the weather stays too bad, the boss has 45 minutes to decide what to do. During each landing today, the AC used very little reverse thrust and braking, allowing the aircraft to roll to the end of the runway. You have calculated the landing distance at your destination is 1,000 feet less than the runway available.

THE FLIGHT ENGINEER'S DATA

This is a first for you. Although only one wheel brake will not work, you must base your calculations for braking action on only six wheels, one on each truck. You've never experienced a landing with less than optimum braking. You are intensely aware of the potential for unintentional asymmetric braking should the AC apply the brakes using full force on both pedals. You're also concerned that the low RCR, poor visibility, and the brake malfunction could combine to create problems during this landing. You want to doublecheck your data, balance the fuel load, and plan for the arrival, but the flight examiner keeps asking questions. The AC seems concerned only with the fuel. You decide to pass a totalizer fuel figure to satisfy him quickly, rationalizing it's close enough for him to recognize whether or not he must divert.

That's it. Now you have the same critical information our crew had before committing to their chosen course of action. As you read through the following rendition of what they actually did, reflect on what, if anything, you might have done differently. But also try to think how or why the crew took these actions. Their choices, unfortunately, weren't all that unusual or unpredictable.

THE ACTUAL SEQUENCE

"Descent checklist completed," reported the copilot, as the aircraft commander smoothly reduced the power to that required for pressurization, and the aircraft began its gradual descent toward the final destination.

"Descend and maintain 8,000 feet, altimeter 29.94," advised the controller. "Contact approach control, 121.9."

"Roger, down to 8,000 on 29.94 and switching."

"Approach, MAC 40612, descending to 8,000," announced the AC on initial contact with approach control.

"MAC 40612, report level 8,000," came the reply.

"Copilot, check the ATIS for the latest information," the AC directed. "Our weather update from metro looked good enough for the approach using vis-only criteria."

"Roger, sir," the second lieutenant responded as he tuned the VHF radio for the terminal information service. He had just compiled the arrival message and was about to call command post. They would have to wait. He must now adjust a habit pattern. Instead of completing the arrival message to the command post, the ATIS must be checked. The command post call will be squeezed into the perceived remaining time of the flight.

"Sir, the ATIS reports the landing runway is 12, and the runway is wet with braking action good," reported the copilot. "I'll be back with you after I notify the command post and get a parking spot."

"Engineer, pilot," the aircraft commander called. "Did you use an RCR of 12 when you computed the landing data? This is all I need at the end of a long day," he sighed as he reviewed the TOLD card.

"Yes sir," came the reply. I'll never get through as long as the AC keeps interrupting, he thought.

"How much fuel is remaining, engineer?" the AC again interrupted.

"Ah, about . . . 30,000 pounds, sir."

Using a rule of thumb, the AC quickly evaluated the fuel situation. "Let's see . . . Fuel remaining is 30,000 pounds. Subtract approach and landing of 2.5, enroute of 8.0 and holding at the alternate 6.5. That leaves about . . . "

"MAC 40612, continue your descent to maintain 6,000 feet, proceed direct to Alpha, expect ILS Runway 12," the approach controller interrupted.

"Descending to six, direct Alpha," repeated the AC. I wish the copilot would get that arrival message done. I'd like to begin the approach checklist, the AC thought.

"Pilot, copilot. Command Post advises the field is obscured and the RVR for Runway 12 is 10. That's below minimums. They want to know our intnetions."

The crew's activity was beginning to peak when the possibility of diversion became imminent. The AC, habit patterns already in delay, silently reviewed the options: enter holding and hope for the weather to clear, then try an approach, or divert now.

"Copilot, tell command post we'll delay for awhile and possibly divert. It still looks like there's time to decide." Meanwhile, we can enter holding and plan, he thought. "Also check with approach for a current observation."

"Approach control, MAC 40612, can you tell me the current observation?" the copilot transmitted.

"Roger, ceiling obscured, runway visual range for Runway 12 is 40," replied the controller.

"Thank you sir, request clearance for the ILS to Runway 12 now." Turning to the copilot the AC remarked, "That's good enough. Let's get in while we can."

"MAC 40612, descend and maintain 4,000 feet, cleared direct Alpha, cleared for the ILS 12 approach, report the outer marker to the tower on 126.2."

"Roger, 4,000 feet direct Alpha, cleared approach to 12, tower 126.2," repeated the AC. "Copilot, you've got the radios. We're going in. Engineer, approach checklist please."

The crew hastily began the checklists as the AC maneuvered toward the field. During the landing, the pilot applied full pressure to both brake pedals in response to the short field and immediately began experiencing directional control problems induced by asymmetrical braking. While attempting to compensate with nosewheel steeering, the nose wheel began to skid. The aircraft came to rest in the infield, 150 feet left of the runway centerline. All crewmembers egressed without incident.

THE ANALYSIS

The board review of the final minutes would reveal a lack of adequate crew preparation for the approach. Summarized, their findings would include:

1. The aircraft commander roughly estimated the fuel requirements and with the temporary change in weather, executed a poorly planned arrival in view of the marginal conditions.
2. The copilot was busy working on the radios and was aware there was time to plan. He assumed the aircraft commander was prepared and would make a good decision.
3. The FE, busy doing back-up calculations, failed to review the data and point out potential problem areas, i.e., the stopping distance versus the field length. Subsequently, he wasn't afforded time to discuss the potential ramifications of the brake problem with the AC.

Each crewmember was aware of at least one critical piece of the puzzle. But some outside interference created enough of a distraction for each of them that they couldn't effectively communicate. The significant data each had individually was never collated to help the AC effect proper decisions. The following revised edition is one example of effective intracockpit support which *might* have prevented the incident:

Copilot: "Pilot, if your rule of thumb still holds, I believe we can hold for about 45 minutes here and divert, if necessary. Then we'll arrive over our alternate with enough fuel to land with about 11,000 pounds."

"You're right, co," echoed the AC. "Let's just get into holding for now and have the scanner crosscheck the fuel data."

Flight engineer: "Pilot, our landing distance is only 1,000 feet short of the runway length because of our anti-skid problem. So, you'll have to be aggressive on the braking. While the anti-skid will function normally, you'll have four wheels on one side, three wheels on the other, so use caution when you apply the brakes."

"Also, while the benefit of reverse thrust isn't calculated, full reverse as soon as possible will increase our safety margin," added the copilot.

Pilot: "Thanks, crew. The choices look pretty simple. We can hold here and at our alternate as planned and keep our safety margin after the divert. We're not sure the weather will clear; if we divert, the weather will be better. Braking action and our brake system malfunction will demand an aggressive, but careful, stopping maneuver. Our bingo time is in 45 minutes to divert with the holding fuel and our required reserves."

The crew has reviewed and ordered the available options, and established boundaries for executing each.

While this version may appear simplified, it highlights the type of crew coordination process taught during a CLT/CRM-type program. In many cases, the correct answers to mishap problems are in the cockpit, and we need to work harder to get the people who have those answers to express them.

Following UHT Major Edward H. Aufderheide was assigned to the 350 SRW at Davis-Monthan AFB, Tuscon, Arizona, where he flew the CH-3E. He was next assigned to Osan AB, Korea with the 51st Composite Wing. After fixed-wing transition, he moved to Charleston AFB, South Carolina where he flew the C-141 with the 76 MAS. In 1982 Maj. Aufderheide was reassigned to HQ MAC/DOTS, Scott AFB, Illinois. He is an aircrew training devices officer and authored MAC's Mission Oriented Simulator Training (MOST) program. Major Aufderheide is the co-chairman of MAC/NASA's 1986 workshop on Resource Management training for aircrew members.

The MAC Trophy for Flight Safety

Presented to the MAC Air Force with the most effective flight safety program as determined by flight mishap rate and severity, mishap causes and mission.

21st Air Force

MAC Flight Safety Achievement Award

Presented to wings and geographically separated units that are mishap-free and have an effective flight safety program during the award year.

Category One

1 SOW, Hurlburt Field

62 MAW & 446 MAW (Assoc), McChord AFB

63 MAW & 445 MAW (Assoc), Norton AFB

89 MAW, Andrews AFB

374 TAW, Clark AB

435 TAW, Rhein-Main AB

436 MAW & 512 MAW (Assoc), Dover AFB

437 MAW & 315 MAW (Assoc), Charleston AFB

438 MAW & 514 MAW, McGuire AFB

1550 CCTW, Kirtland AFB

Category Two

316 TAG, Yokota AB

616 MAG, Elmendorf AFB

MAC Distinguished Flying Unit Safety Award

Presented to the best unit from among those receiving the MAC Flight Safety Achievement Award.

Category One

436 MAW & 512 MAW (Assoc), Dover AFB

Category Two

616 MAG, Elmendorf AFB

MAC Support Safety Achievement Award

Presented to units designated or functioning as military airlift support squadrons and mobile aerial port squadrons. Units selected must have exceptional quality of services and successful mishap prevention programs.

603 MASS, Kadena AB 611 MASS, Osan AB

y Award Winners

MAC Safety Officer of the Year Awards

Primary Duty

Maj. Francis M. Harvey
1550 CCTW, Kirtland AFB

Additional Duty

Capt. Keith M. Wilkinson
20AAS, Clark AB

MAC Safety NCO of the Year Awards

Primary Duty

TSgt. Scott M. Davis
608 MAG, Ramstein AB

Additional Duty

TSgt. Lucius D. Ewell
10 MAS, Zweibrucken AB

Stress

Resolve it before you fly.

by Dr. Thomas C. Spasoff
Director of Health Awareness
Providence Hospital

Job related stress. What is it? Have you got it? Do you need it? How do you handle it when it becomes too much? These and other questions have been asked about this potentially dangerous fact of life.

For aircrew members, stress generated by non-flight duties can have a serious effect on their overall performance. According to Dr. Hans Seyle, renowned stress researcher, stress *is* necessary. He defines it as a non-specific response of the body to any demand made upon it.

How we respond to expectations and how we are treated, regardless of whether we are the supervisor or the subordinate, can have a tremendous effect on how we deal with our stressors at work. A specific stressor, such as an unresolved work issue, will elicit a response from a person, depending upon how the individual interprets the stressor each time it is encountered. The attitude you take when you encounter a stressor will affect your response. Stress is neutral; it can be good or bad.

The word "stress" is misused. What we should be alert for is "distress," the negative by-product of uncertainty or anxious feelings about a stressor. A prime indicator of distress or worker dissatisfaction is an increase in the number of missed workdays.

The most often mentioned reasons for distress at work are:

- Heavy workloads.
- Limited authority to act.
- Decreased job satisfaction or recognition.
- Increased competition.
- Dissatisfaction with the boss.
- Inability to get along with co-workers.
- Lack of decision-making by those in authority.
- Constant or sudden change in responsibilities.
- Insufficient information to complete a task.
- Interruptions.
- Feeling of helplessness.
- Unreasonable time constraints and deadlines.

Generally, when someone attempts to deal with one or more work-related stressors and becomes frustrated, his/her effectiveness diminishes and productivity decreases.

As varied as the potential reasons, so are the symptoms of distress. When we respond to a stressor, the body prepares for "fight or flight." The likely physiological responses include heart rate increase, muscle tension, and, indirectly, an increase in blood pressure.

Perspiring, getting flushed in the neck or face, developing clammy hands or feet, butterflies in the stomach, or stuttering are additional symptoms of distress.

The intensity and duration of the

symptoms will depend on how the person perceives the stressor. If it is viewed as non-threatening, the body reverts to normal quickly; but if uncertainty prevails, the signs and symptoms will persist and are likely to increase in intensity.

Much has been written about the type A and type B personalities and how each responds to stress. The type A person is the hard-charging, deadline-oriented person who is supposed to be at greatest risk of a stress-related illness. Duke University researchers, however, have recently completed studies indicating that a type A personality is not the detrimental health factor but instead, it is the hostility and anger that can simmer in these people for long periods of time. Every organization needs hard-working, productive people, but the hostility and anger they may retain hurts everyone.

With this basic understanding of distress and its impact on individuals and their supervisors, it is important to consider the likely effects of this on the organization's operation. These can include:

- Schedules not met.
- Arguments between individuals from different departments.
- Declining productivity.
- Increased use of sick days.
- Increase of work-related accidents.
- Diminished cooperation.

If your organization is experiencing a number of these, supervisors need to resolve the causes of the problem. Don't despair, there are a number of things that can be done to help reduce unnecessary conflicts, whether they are real or imagined. Undoubtedly, the most useful technique is that of working to improve the lines of communication within the organization.

When individuals assume that no one is interested in their opinion or in giving them an adequate answer, they become frustrated and allow numerous things to interrupt their concentration. What it boils down to is that there is a need for a team approach to correcting poor situations.

The following are examples of things individuals can do to help keep their stressors in line:

- If you're uncertain about an assignment, ask for clarification.
- If you're faced with several projects at once and are becoming frustrated, set priorities. This allows a concentration of effort on one project and increased success during the day.
- Don't become a part of the rumor machine.
- Be helpful to coworkers. Avoid the thin saying, "It's not my job."
- Let a person finish talking before you interject comments.
- Avoid giving unwanted advice.
- Develop your sense of humor.
- Don't make a five cent issue into a five dollar one.
- Learn to read your responses to stressors.
- Cut back on the consumption of sugar and caffeine. These tend to make you jumpy.

Some of the things supervisors can do to alleviate distress in their organization include:

- Give recognition for a job well done. Let people know their effort is appreciated.
- Don't nit-pick subordinates.
- Make your expectations of a subordinate known, then let him or her meet them.
- Make your expectations realistic. The job requested and the time to complete it must be manageable.
- Be willing to listen to the subordinate's point of view.
- Maintain an open-door policy.
- Pitch in and help when the need arises.
- Supervise, don't snooper-vise.

In addition, top-level people can initiate actions that will indicate their commitment to resolving issues.

- Create an ongoing committee of personnel from all levels to discuss and implement changes and programs.
- Encourage individuals to participate in individual and organized sports activities.
- Have the Flight Surgeon discuss stress management at Flight Safety meetings.
- Hold social events during the year to bring everyone together.

As you can see, there are potential distress-laden land mines at work, but there are ample solutions for those willing to address them. It comes down to the choice of dealing with the stressors now, in the early stages, or later, when additional complexities develop to hinder the process.

Adapted from: *Cincinnati Business Courier*

C.R. Terror

C.R.'s finest hour

Tassels seemed amused as she watched The World's Greatest Dispenser of Libations masterfully mix two of his patented Terrorific 'Tinis. "Ah, Tassels, m'little pigeon, this is a night like no other" remarked the Rajah of Romance. "A fine meal, a good movie, and thee. Nothing is sweeter than these three."

Windsock, C.R.'s faithful four-legged follower, curled his ears at the sound of his master's iambic incompetence. Tassels settled comfortably on C.R.'s simulated leather couch.

"Golly, Peaches, ah thought yall'd be upset 'cause ya'll are back flyin' those fling wing thrashin' machines again."

"On the contrary, m'dear. It's high time those personnel weenies recognized the error of their ways. Why, my knowledge and experience in manipulating slightly heavier-than-air hover-craft is exactly what is needed to help turn these fledgling hover bugs into winning warriors," boasted the Courageous Clandestine Operator. "Besides, Eagle AFB brings back a lot of memories. Why, it was here I flew my first C-45, way back in '54. As I remember, there was a cute little forecaster stationed there—blonde, I think . . ."

C.R.'s trip down memory lane was interrupted by the incessant clamoring of his miniature C-5 "Touch Fone."

"World's greatest fling-winger," C.R. answered.

"Terror, Col. Fang here. Drop what you're doing and get to the squadron pronto!"

"But, ah, er, I was about to partake of my first 'tini of the day, sir, and . . . ."

"I don't care, Terror. Get down here on the double!" Colonel Fang was his usual succinct self. All the Veteran

Rotor-Head heard was a loud click as Colonel Fang ended the conversation in his inimitable way.

"What is it, hunny-chile?" languished C.R.'s Lively Looosiana Lass.

"Another exercise," moaned the Manipulator of Motors and Rotors. "And to think I still have 15 minutes of my 48-hour post-mission crew rest left. I'll be lucky if I don't collapse from exhaustion! Ah well, m'little chickadee, duty calls. I'll be back as soon as those wing weenies are *sure* the telephone recall roster really works."

With that, the Ace of Aerospace dashed into the bedroom, donned his custom tailored NOMEX, and grabbed his always-packed, hand tooled, baby-blue leather B-4 bag.

"Au revoir, ma petite," C.R. chanted in his best French accent as he reached the front door.

"Bye bye, hunny-pie. Li'l old Tassels be wait'n for ya' soon as ya'll return from slip'n them surly bonds."

For a brief moment, the pompous pilot pondered the consequences of being AWOL as he thought of the perfect evening he'd originally planned. He knew that his Chicken a-la-Terror would have been a hit and the movie at the Bijou was one both he and Tassels had been dying to see. However, the mental image of Colonel Fang returned the Clever Collective Clutcher back to reality. Moments later, C.R. was motoring carefully toward the base in his Kelly green Jaguar.

This whole evening has been an unusual one, C.R. thought as he wheeled his Jag into the squadron parking lot. "Must be giving away free coffee and doughnuts. Not a parking space to be found. Why, someone has even removed my reserved space," exclaimed the Downcast Downshifter, glancing at the concrete chocks that surrounded his favorite fire hydrant. "It's getting so a senior field grader just can't get any respect."

The squadron was a flurry of activity as C.R. made his way to the coffee bar.

"As the Great Bard wrote, 'Much ado about nothing'," mumbled the Muddled Misquoter to Long Suffering Sam who was busy reviewing chapter three of his Dash-one. "Okay, I'm here. Check me off and let's adjourn for the evening to partake of some nicer nocturnal activities."

"I'm not so sure this is an exercise, boss," Sammy responded. "Capt. Back is holed up in the scheduling office and Colonel Fang is wound up tight as a drum. We could be in for a long evening."

"Not to worry, Sammy ol' bean, I remember when I was snowbound for a week in the O' Club at Moosehead AB and the bartender had only a two-day supply of olives—a real test of survival skills."

C.R. reached down in his pocket and produced a package of his favorite Gold Ring Egyptian Ovals and carefully twisted one into the opening of his personalized ebony cigarette holder.

"You shouldn't do that, you know. Smoking causes lung cancer, emphysema, and may complicate pregnancy," intoned a voice at C.R.'s six o'clock. The Field Grade Fumbler wheeled around to see who had verbally accosted him right in the middle of one of his famous fables.

The grinning, Adonis-like figure now facing the pudgy pilot was highlighted by a spotless flightsuit adorned with the Numbered Air Force shoulder patch and captain's bars.

"And who, may I ask, are you?" C.R. questioned, conjuring up his most sarcastic voice.

"Captain Brad MacKenzie, but everybody calls me Mac. Glad to meet you, sir!" was the reply. The pristine pilot then offered the Lothario of Longitude his ham-like hand. C.R.'s pudgy prehensile digits were dwarfed in the clutch of Mac's grasp.

"I'm the Numbered Air Force Flight Safety Officer out promoting the program by flying with as many of the crews as I can and relaying these experiences to other crewmembers. I provide the Numbered Air Force Commander with an assessment of the 'safety pulse' of his command. You know, sort of a flight

safety barometer."

Before MAC's most Tenacious Teller of Tall Tales could embark on an unforgettable ode about *his* contribution to the flight safety program, Captain MacKenzie turned his attention to a second lieutenant leaning against the soft drink machine.

"Hi, I'm Brad MacKenzie. Pleased to meet you. Is this your first exercise?"

"Sammy, m'lad," questioned C.R., "is that the guy you told us about last month"?

"That's him boss," Sammy rejoined. "A *real* sharp officer. I'm told he'll be the guest speaker at next month's flight safety meeting."

"Ah yes," sighed the Pensive Pontificator of Pilotage, "he looks like a fine, fast-moving, freelance fact-finder. The officer of tomorrow, today. Not much room left for old war horses like me. It's time the young professionals had their turn."

"What are you saying, boss!" gasped C.R.'s Astounded Assistant.

"Well, Sammy ol' pal it's time for me to . . ."

The Magnificient Major's words were interrupted by an announcement that sounded over the squadron's loudspeakers. "Attention in the building. All crewmembers report to the briefing room."

"You were saying boss?" continued the competent copilot.

"Ah, er, em, nothing Sammy m'lad, nothing. Crimenently, man," recovered the Misty-eyed Major, "let's repair to the briefing room. Maybe Colonel Fang's going to give us the hot poop regarding this midnight mission. Step lively, now. Times awastin'."

The briefing room was buzzing with wild rumors about what was happening when Captain MacKenzie, who happened to be standing at the doorway, snapped to.

"Attention! Gentlemen, Colonel Fang."

Colonel Fang, accompanied by a short, studious-looking major, strode confidently up the aisle to the podium. Not since his last Q-1 checkride had C.R. been so surprised. In his scramble to stand up, he managed to spill his hot cup of Colombian java all over his lap.

"Yipes!!" screamed C.R. as he madly rushed to rid himself of the scorching black liquid searing its way through the tailored fabric of his custom-made flight suit.

"Shh, boss, this briefing sounds important," reminded L.S. Sam.

"As you were," grumbled Colonel Fang, as he stubbed out the remains of his finely aged Dutch Masters in an ash-tray. "Men, this is *not* an exercise. As I'm sure you're aware from reading the newspapers yesterday, a small group of Hittite terrorists on the small island-country of

Moldavia overran the United Nations agricultural mission in the tiny town of Smalldone. They're holding seven of our citizens and two Moldavian agronomists hostage. Our job is to rendezvous with other Special Operations ground forces who will liberate the prisoners. We will then fly them to safety.

Unfortunately, because of the dreaded Moldavian Aortic Inflamatory Defibrillation Syndrome (MAIDS) virus, only those crewmembers who've been adequately inoculated will be chosen as the primary crew for this mission. That rules out everyone except for Major Terror's crew."

Colonel Fang's face flushed at the thought of C.R. commanding this mission. "Captain Breeze's and Major Pave's crews will fly wing positions in the formation and will orbit at a holding point outside Moldavian airspace in case the primary helo needs assistance.

I've asked Captain 'Mac' MacKenzie, who's visiting from Numbered Air Force, to relay a few thoughts on safety before we set out on this mission. Following that, Maj. Claude Estine from Intelligence will give you all the details, planning packages, refueling points, and documents. Departure time is 0200L. Remember, this whole thing is classified and must appear to be a routine exercise. That's all. Oh, and, ah, er, Major Terror, I'll see you in my office after the briefings. Captain MacKenzie, the stage is yours." With that, the Colonel stormed off the stage.

"Sammy, ol'bean," whispered the Jovial Jolly Green Operator, "the boys at the Head Shed have finally come to their senses. After all, when the mission calls for the best, only the best get called."

"Boss, your grasp of the obvious never ceases to amaze me," retorted Sammy, shaking his head.

There was no mistaking the air of confidence that surrounded Mac as he approached the lectern. "Gentlemen," he began, flashing a reassuring smile at the assembly of warriors, "I know that there is much to be done in preparation for this mission, so I'll be brief. The question is often asked: How do we balance flight safety with the demands placed on us during a mission such as this? To answer this, let me reiterate the Command position. You have been well trained for this undertaking. Therefore, there should be nothing on this mission that you can't do safely, according to the book. Commanders all the way up the chain expect you to operate within the bounds of the regulations. If unusual situations arise which require deviation from standard procedures, the regulations allow you to proceed, provided you do things properly, using good judgment, and report it afterwards.

Gentlemen, I envy your opportunity here. Fly safe and Godspeed". With that, Mac surrendered the stage to Major Estine.

After the intel and planning briefings, C.R. slipped meekly into Colonel Fang's office only to appear five minutes later with a pensive look on his face and beads of sweat accumulating on his balding pate.

"Gee boss, you okay?" asked C.R.'s curious copilot.

"Not to worry, Sammy m'lad. Must've been the chili-jalapeno-grits quiche

I had for lunch. Now then, to the business at hand. Let's preflight the penetrator, runup the rotors, and go pick up the prisoners. Those histotoxic Hittites are no match for MAC's Main Man. Step lively now, time's awastin'." C.R. bellowed.

"Easy boss," cautioned the able left-seater, "Don't you think we should brief the mission and formation first?"

"Crimenently, man, this is *war*! We'll brief on guard!" chided the King of Combat.

"But what about COMSEC," cautioned the able left-seater.

"I suppose that would *look* better to those Pentagon twinkies monitoring the mission and yes, we must set a good example for those with less combat experience," C.R. admitted.

The prelaunch hours found the Magnificent Major in his finest form and Sammy busy *reminding* the Proficient Pilot that now was not the right time to start writing his own combat air tactics course. Finally, just before block time, the Sultan of Cyclics was ready to go.

"Kick the fires and light the tires, Sammy m'boy. Time and history wait for no one," the Prophetic Pontificator pronounced. With that, a strange metamorphosis seemed to overcome the Able Aeronaut. Sammy was amazed at how *carefully* C.R. started the giant H-53. He even

restrained himself from talking on the radio, and actually used the *correct* non-verbal signals while communicating with the other aircraft in the formation enroute to the air refueling point. C.R.'s low-level flying technique was equally impressive. He was so good, in fact, that the formation was still intact at the orbit point. From there, the Master of Rotors left the formation and proceeded on, alone and unafraid, to the pickup location.

"Three minutes out," announced Sammy as the Super Jolly made its way carefully through the hills of northern Moldavia. Suddenly, the intense silence was shattered by the unmistakable sound of gunfire pelting the skin of the huge helicopter.

"Small arms fire at three o'clock," chanted Max Torque, C.R.'s ever-present engineer, in a voice three octaves higher than normal.

"Never fear, crew. As a great statesman once said, 'This is Terror's finest hour'." C.R. was famous for adapting the words of great people to fit the situation. "Yahoo!!" he bellowed and cleverly maneuvered the craft out of harm's way.

As if from out of nowhere, the skies were suddenly filled with aircraft of many descriptions, all sporting the friendly markings of the good old red, white, and blue. Each was spitting a welcome blanket of deadly protection as the heavy

hovercraft decelerated on short final for landing in the LZ. Then, two, almost invisible power wires materialized in front of the helicopter, stretched perpendicular to the flight path.

"Boss, wires, 12 o'clock!" Sammy yelled.

The Ace of Aerospace coolly increased the collective lever to maximum and, though not by much, glided the behemoth bird over the wires and on into the LZ.

The return flight to Eagle AFB was jubilant. Even Sammy's usual doom-anticipating countenance brightened with the thought of their recent success—mission accomplished and no casualties.

"Boss, you handled that landing masterfully. Even those wires didn't throw you off."

"The key to any tactical approach is to keep your options open, Sammy, and *always* try to maintain a power reserve. You never know when you'll need it," was C.R.'s something-less-than-humble response.

"Good point, boss, good point. By the way, what were you about to say the other night before the briefing?"

"Well, Samuel, I was going to save this for later. But, I guess now is as good a time as ever to tell you. You see, the time has come for this weary old warrior to slip slowly into the sunset. It's up to officers like you and Mac Mackenzie to fill my shoes. This is my last flight and after one more lithesome landing, I'll retire from active duty to run 'C.R. Terror Combat Cropdusting and Sensitive Airlift, Inc.' The other night, just after the briefing, Colonel Fang told me that my retirement papers were approved."

C.R. could see the emotion rising in his competent copilot's face, and reassured, "But—not to worry old friend, you'll always be able to find me among the ranks of the retired reserves if the country should ever need me—any time, any place".

The silence in the cockpit was deafening as the lumbering H-53 turned to final approach bathed in the luminous glow of the setting sun.

"Now, Sammy ol' bean, as I was saying, the whole trick to doing a safe, double flame-out victory roll is not to attempt to do one at all. Why, I remember one time, back in '67 when . . . "

AWTH's Corner

(Editor's Note—This AWTH is printed with limited editing to preserve the context of the statements. The opinions presented in this AWTH—both stated and implied—are those of the submittor. We publish this report as a part of the AWTH program, and because it provides an excellent forum for addressing a strong safety concept.)

14. OTHER REPORTS SUBMITTED AS A RESULT OF THIS OCCURRENCE (OPTIONAL)

15. NARRATIVE (*Provide a concise, chronological description of the facts and circumstances leading to this occurrence. Include what happened, how it was discovered, what actions were taken, evasive action required, factors contributing to the situation, why it occurred, and your suggestions on how to prevent recurrence.*)

My basic crew was entered into crew rest at Clark AB for a mission to Diego-Oman, 13 days after leaving home station. PALCE called my squadron for an FSRT (Firm Scheduled Return Time) extension and the squadron said no, they "had to have me home". Since our FSRT was now only 36 hours away, we were augmented in order to get home in time. Our expected alert time was 1915Z (0315L). We were non-A due to Cope Thunder, staying in a miserable, hot, noisy hotel. I got about three hours of sleep.

Since the augmenting pilot still wasn't legal for alert (we weren't informed of this until 1915Z, we burned for 2+15 and were alerted at 2130Z. Forty-five minutes prior to scheduled takeoff (0001Z), a tail swap was initiated to a Travis jet that also had to "get home," even though our crew is from Norton. We took off at 0246L and arrived at Andersen AFB at 0609Z. We departed Guam at 0924Z. That's when the mistakes started (14 hours after I woke up). First, I forgot to reset my airspeed marker to rotate speed. I tried to get the copilot to rotate the aircraft 11 knots too slow. Fortunately, he ignored me. Second, we jointly mislabeled the computer flight plan and misprogrammed the FSAS/INS. We caught it though, because the depiction on the radar scope looked "wrong." Third, we failed to set the transponder to the appropriate squawk. Center caught that one for us.

The rest of the flight was uneventful. Like most crewmembers, I got no sleep on the aircraft. We arrived at Hickam AFB at 1800Z, exhausted, 22 hours and 45 minutes after I first woke. We were still *legal* for another 4 hours and 30 minutes.

Augmented crews are sometimes necessary to satisfy some operational constraint. We take a calculated risk, and push a crew to their limit to "MOVE THE MISSION." Where is the operational necessity here? I asked PALCE for 12 hours off at Guam and was turned down. The squadron won't use me for *five* days after I get home, but being home lets them count on me. Big deal.

No crew, crewmember, or aircraft is indispensable. You're never really "the only one." This MAJCOM lost a crew and airplane under circumstances similar to those I've just described. We're getting along fine without them. I don't want to know how well you can do without me. It's small consolation to me that someone may be fired if I die and kill my crew.

I wouldn't try to balance my checkbook after a 23-hour day, but there I am on ILS final, in the dark, hoping nothing happens to Q-3 me. My crew has been on "12 and go" for two weeks, and I think they deserve my best, most alert performance; so does my family. This is a common occurence in the system, mine is just the latest example. This is an Accident Waiting To Happen.

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Who's in charge here?

Editor's Comments—The value of the AWTH program, and the value of this submission, is to get to the bottom line. We will attempt to address the critical elements cited, answering them as best we can. Attacking the project chronologically, the first interesting facet in this story is the denial of an FSRT extension.

The coordinating agency made an effort to get an extension, and the squadron felt they needed the crew home badly enough to deny the request (this became a major concern to the submitting crewmember). We have no means of determining the rationale behind these actions and, more importantly, from the information we have, the aircraft commander doesn't either. He didn't call his squadron to discuss the issue personally with his squadron commander or DO. We aren't condoning questioning the decisions of the squadron on a routine basis, nor do we wish to recommend a controlling agency's actions be subrogated at the AC's whim. But in this case, the AC felt there was something wrong with being held to the FSRT, so he should have done something.

The adequacy of the crew quarters is the second problem. Having spent time in some of the "hotels" in the more remote areas near Clark AB, we can empathize with the conditions described. However, we must point out the aircraft commander is the one who accepts the quarters, and is responsible for the care of his crew. If the quarters are inadequate, he/she must *do* something. There are, in fact, avenues to pursue when a legitimate problem exists. The AC can contact the billeting officer and get assistance or, if necessary, he can appeal to the senior MAC commander at the installation to resolve the problem. We think it's important to point out that this is not an unrealistic option. If there is a problem and you've pursued all other options, the MAC commander is not going to "have your head" for asking his assistance—that's one of the things he's there for. Just as the AC is responsible for his crew, the senior MAC commander is responsible for all MAC people at his base, transient or not. All this said, there may be times when adequate quarters are just not available. The senior MAC commander can't do anything about that, but he can get involved in the decision process to evaluate crew rest and how far the crew should move before the *next* crew rest.

Next, the AC is concerned with the reason for augmenting his crew, and the specific way they were augmented. The operational necessity for augmenting this crew will, unfortunately, remain a mystery because the question was never asked when it should have been. The way they were augmented seems to be a little unusual. If, as one interpretation of this AWTH would imply, the aircraft commander self-alerted at 1915Z and called command post, only to find they weren't going to actually alert his

crew for another 2+15, then he was trying to game the system and we can't help. However, if the crew was alerted at 1915Z, then informed they were on "hold" for 2+15 until the augmenting pilot became legal for alert, there is a problem. It is hard to imagine the rationale for alerting a crew 4+45 prior to takeoff. Here again though, the the aircraft commander is the buffer. *He/she* is the one who decides when things are unacceptable; that's why we call them aircraft *commanders*, instead of first pilots or captains. This leads to a very important problem with this AWTH.

When the aircrew was at Guam, the AC *asked* for 12 hours off, and his request was denied. If he felt the continued flight compromised safety he should have *declared crew rest in the interest of flight safety.* He has to make this decision, instead of just waiting for someone else to guide his crew.

Who's in charge here? This may be a popular and appropriate question to those outside an organization, but if the question comes from within—watch out. This is particularly true of the organization known as an aircrew. Those who are or have been fortunate enough to wear the title AC have at least one tale which clearly defined the answer to this question, perhaps more clearly than could ever be ascertained from other crew positions. Being the boss, at first, appeared a great deal more fun than not being the boss—you got to *decide*. Of course, the good commander consults his staff before rendering the decision, but there is no vote—the decision is the aircraft commander's.

Making a decision is only half the job, as difficult as it is. The other half is taking credit for the decision—good or bad. Most commanders have been on both sides of that fence; it comes from the nature of decision making, because no one's always right. It takes very little effort to accept the credit

for the good decisions, and considerable fortitude to accept the credit for inappropriate ones. The worst decisions though, are the ones never made.

There's more to being an AC than signing the flight plan. Commanding your crew *is* your job, the responsibilites you incur on certification are like any other commander's. The responsibilities and obligations are the same.

The errors this crew experienced demonstrate the results of flying while fatigued. Each crewmember must decide at what point his/her condition precludes their safely operating the aircraft, and then do *something*. Implicit in "followership" is the obligation to keep the commander informed, and to make input, as appropriate, to the decision-making process. Quite naturally, there will be pressures to keep the mission moving; after all, 12- and 24-hour delays don't exactly help build efficiency in an operation. Again, the aircraft commander is responsible for deciding when flight safety will be compromised, and every commander in the chain of command expects—no, **demands**—he/she exercise that authority.

Comments from the Deputy Director of Safety—This AWTH describes a serious problem in our business. Our editor's comments are absolutely correct. But, I must add that "declaring" crew rest, or saying "no" isn't easy—it's tough.

This situation reminds me of a very similar personal experience. It was January, 1968—the Pueblo Crisis. My Dyess TAC crew, augmented, was alerted at 2300 on a Friday night after about 24 hours of "telephone alert." Our route was Dyess-Nellis-Hamilton-Hickam-Wake-Kadena-Kunsan, then back via Tachikawa-Andersen-Midway-Hamilton-Dyess. . The West Coast and Pacific MAC bases were overloaded with C-141s and C-130s headed for Korea. Since we were augmented, we were scheduled for two or three legs each crew duty day with 12-hour ground times (touchdown to takeoff). Every enroute base was saturated. Crew rest (noise, heat, quarters) was a problem and 4-to 8-hour delays for on/offload, refueling, etc. were standard. Inbound from Midway to Hamilton, we were bone tired. We hadn't slept more than a few hours for 5 days. I was dozing in the bunk when we started descent. The engineer shook me and said the other two pilots were in bad shape—*they were*. Both pilots had fallen asleep during the descent (the left seater went to sleep on base during the GCA). I jumped in the left seat as the copilot turned toward final—he forgot to roll out. But, we landed okay.

The ALCE duty officer bounded into the cockpit before the props stopped to tell us we were quick-turning and pressing on to Dyess. I said we were going into crew rest. The ALCE commander was firm that we would follow orders but agreed to let me use his phone to call the home command post.

I explained my dilemma to the duty officer and was told to stand by. A few seconds later I was surprised to hear my wing commander on the line (it was 0400 at home). There was concern and understanding in his voice. I told my story. He said "take 24 hours crew rest and call home if you need more." All resistance to crew rest evaporated.

The point of my story? First, declaring that particular crew rest was one of the toughest decisions of my flying career, including my three years flying in SEA (one year as an AC at CCK). I was bucking the system (and a bunch of staff and command and control types) and felt like a rat, traitor, or both—until I talked to my wing commander. Having been both a staffer and command poster in the years since, I now understand their jobs. Safety, however, is COMMAND responsibility from the aircraft *commander* up the *command* chain.

Second, I believe that every rated senior officer in this command has had a similar experience as a junior officer flying those same airlift birds you guys now fly. Your commanders *will* understand.

Third, it's not necessary to call the senior MAC commander, your squadron commander, DO, or wing commander before declaring crew rest, but if there's *any* doubt in your mind about pressing on when you shouldn't, *CALL*. You'll rest better knowing your boss knows, and is backing you up.

(Thomas M. James, Col, USAF)

Quick Stoppers

A Silly Rule?

Remember that blurb in your 55-XX series that says primary crewmembers should eat different foods at different times? Kinda silly, huh? Well, if you think so, read these civil aviation stories.

The pilot and copilot of a Gulfstream 1 partook of several raw clams for lunch. Two hours later they were sick to the point of incapacitation. Had their passengers been on time, the pilots would have cancelled the mission. The pax showed four hours later. By then (and according to their standards) the pilots had recovered sufficiently to fly.

Over 100 passengers and crewmembers aboard 13 British Airways flights got food poisoning from hors d'oeuvres (pilots eat hors d'oeuvres?). A Saudi Arabian died on one flight, apparently from tainted food. The crew on the same flight luckily escaped infection. The culprit was a bacterium called salmonella enteriditis.

Thirty-five minutes after takeoff from Boston enroute to Lisbon, ten crewmembers, including two pilots and an engineer, became ill while flying a DC-8. The captain air aborted and returned to Boston safely. In this case, the crew ate different meals, but they all had tapioca pudding which was what made them sick.

One hundred forty-three of the 364 pax and crew aboard a flight from Tokyo to Paris became severely ill from omelettes that were contaminated with staphylococcal bacteria. The pilots did not become ill because they ate steak instead (no hors d'oeuvres for these guys).

The pilot of a small commercial plane suffered from food poisoning and lost consciousness at the controls. This was somewhat disconcerting to the passengers as the pilot was the only person aboard the aircraft who knew how to fly. One of the passengers was able to revive the pilot who managed to land the plane safely.

Courtesy of: *Business and Commercial Aviation*

After Deadlines

AIRLIFT CENTER REACHES 10th BIRTHDAY—The U.S. Air Force Airlift Center, estab-lished to explore new frontiers in military airlift capabilities, has just celebrated 10 years of testing and refining many of the airlift systems and tactics. The center was activated at Pope AFB, NC, Dec. 1, 1975 and has completed nearly 300 tests for MAC since then. Originally established as the U.S. Air Force Tactical Airlift Center at Pope Aug. 26, 1966, the functions were transferred in 1971 to the Tactical Air Warfare Center at Eglin AFB, FL in 1971. With the consolidation of tactical and strategic airlift under MAC in 1975, the center was reactivated at Pope as the single integrated test center for all airlift forces. Adjacent to Fort Bragg, the center is ideally located for coordinating joint airlift matters and conducting tests.

1985—ONE OF THE SAFEST YET—MAC had the second lowest flight mishap rate ever last year with just .50 mishaps per 100,000 flying hours. This compares favorably with 1983's rate of .40, the best in history. MAC also experienced the best ground mishap record in six years. Over the past five years, MAC was averaging three fatalities per year during the holiday season. In 1985, however, MAC experienced none. Gen. Duane H. Cassidy, MAC's commander in chief, attributes these achievements to personal involvement and leadership. "This record clearly reinforces my belief that commanders and supervisors are the keys to positive, successful safety programs," said General Cassidy.

C-17 FULL-SCALE-DEVELOPMENT GIVEN GO-AHEAD—In this artist's rendition, large Army track vehicles are being unloaded from the U.S. Air Force's newest airlifter, the C-17A, as ground crews prepare the aircraft for flight. Air Force officials announced the award of a $3.387 billion fixed-price, incentive-firm full-scale-development contract to Douglas Aircraft Co., Long Beach, CA, for continuing development of the Air Force's newest airlifter, the C-17A on Dec. 31. The Aeronautical Systems Division's Deputy for Airlift and Trainer Systems at Wright-Patterson AFB, OH, manages the acquisition of the Air Force's newest airlifter.

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Adieu!